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ABSTRACT

An experiment was conducted to investigate the relationship between Tutoring and Academic Counseling (TAC) and the academic performance of minority group high school students. The treatment group of 16 students was exposed to TAC, an intensive program of one-to-one tutoring in academic areas and counseling on study skills and interpersonal relationships. Treatment lasted 16 weeks. The grade point averages of the experimental group were compared to those of a matched control group. An analysis of data indicated that TAC-exposed students achieved significantly higher grade point averages than students who did not receive the treatment. Suggestions for further research and tutorial programs are included. (Author/MK)

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A MULTI-DIMENSIONAL TUTORING AND ACADEMIC COUNSELING MODEL: APPLICATIONS AND EFFECTS UPON MINORITY HIGH SCHOOL STUDENTS

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A MULTI-DIMENSIONAL TUTORING AND ACADEMIC COUNSELING MODEL:
APPLICATION AND EFFECTS UPON MINORITY HIGH SCHOOL STUDENTS

An experiment investigated the relationship between Tutoring and Academic Counseling (TAC), and the academic performance of minority high school students. In the experiment, 16 students were treated with the independent variable, tutoring and academic counseling. Another 16 students with the same characteristics were used as the comparison group and not exposed to TAC. An analysis of grade point averages of all students showed that TAC-exposed students achieved significantly higher grade point averages than non-TAC students. Results indicated some advantages of TAC Model, and suggestions for future research and for tutorial programs are made.

Statement of the Problem

Many disadvantaged minority high school students possess low levels of motivation, poor study skills, study habits, have time management problems, and possess little personal maturity. All of these factors, compounded with others, contribute to academic difficulty and often failure. However, majority and minority students have to come to grips with the aforementioned problem areas, and much of the blame can be placed upon the high school, especially those located in depressed areas.

The problems that emanate out of many high schools are due to irrelevant materials, overburdened teachers, and inadequate budgets. All of these problems of high schools contribute to the academic difficulties of all students, especially the students from low socio-economic backgrounds. These particular students are usually in academic difficulty and are considered high-risk students.

Providing after-school or evening tutoring and academic counseling to the high-risk student is necessary in order to promote and improve academic achievement. The purpose of this research is to determine if individual tutoring and counseling with high-risk underachievers is an effective means of improving grades and attitudes towards school for this particular population. Essentially, individual tutoring and counseling incorporate findings from research involving individualized instruction and one-on-one tutoring. In this regard, a multi-dimensional approach to individualization may be applied to counseling and tutoring of disadvantaged high school students. The next section will present some assumptions involved in the multi-dimensional approach to tutoring and counseling.

Individualized tutoring and counseling can be implemented with the staff present in any educational program. This type of tutoring is not

terribly dependent upon budget and materials and only requires the appropriate textbook, paper and pencil, and the energy of the individuals involved. Individualized sessions are applicable to all content areas, levels of schooling, socio-economic groups, and all ethnic minorities.

The assumptions that provide the paradigm for individualized tutoring and counseling are:

1. It is assumed that all students are capable of learning, and that the students are at different stages of learning. The tutor needs to determine what stage the student is presently in, and develop the techniques and methods necessary to help the student move into the next area, remembering that students learn at different rates.

2. It is assumed that students use different methods and strategies to learn. The tutor needs to determine what strategies the student uses successfully, and develop and strengthen those, remembering that some environments optimize learning. The tutor has to assess whether or not the student is "understanding" and change or add to the strategies and/or the environment.

3. It is assumed that students need different kinds of stimulation and assistance by tutors. The tutor must decide which kind of stimulation affects the students' motivation to learn, what assistance will enable the student to retain the material, and what strategies serve to promote the transfer of retained material to new situations.

With these assumptions, the design of an individualized tutorial and academic counseling program may be facilitated and applied in a systematic manner. Tutoring encompasses as the essentail element, the skill on the part of the teacher or tutor to combine decision-making skills based on research with sensitivity skills based on experience to perceive the current needs of the student. The next section will review the research pertinent to tutorial programs developed and implemented during the last thirteen years.

Literature Review

Tutorial programs have often been utilized within educational settings. However, the programs are conducted in such a manner that systematic data

that might confirm tutoring effects are seldom gathered. Indeed, as tutorial programs become increasingly popular, the effects and value of the experience for tutor and tutee continue to be difficult to assess with any degree of objectivity. This difficulty results from the fact that randomly selected groups are usually not the case, because tutoring is provided for those that have the greater need. The purpose of this review is to scan the research evidence regarding tutorial program, in order to provide background for the analysis. These studies are comprised of reviews, essays, experimental and quasi-experimental designs. Included are research findings that include control or comparison groups, with the studies reviewed in a chronological order.

The research evidence

Durrell (1965) investigated a tutorial program conducted during one academic year in Delham, Massachusetts, which involved fifth and sixth grade students working as tutorial teams in math, science, and reading. The experimental group gained an average six months in achievement over the control group on the Metropolitan Achievement Tests. These results give support to one-on-one tutorial programs.

Cloward (1967a, 1967b) also investigated one-on-one tutorials, where high school students in a deprived area served as tutors for elementary school students that were considered low achievers. The students were tutored twice a week for five months and indicated a six month average gain in reading as compared to a three and one-half month average gain for the control group. The difference was significant at the .01 level of probability, and the program also had an effect upon the reading achievement of the tutors as they increased their skills.

Davis (1968) examined the effects of junior high school students tutoring on a one-on-one basis with other junior high school students.

The study was conducted for eight months in English skills as measured by standardized test results and grades in school. The results of this research indicated no significant differences regarding the academic achievement vis-a-vis tests and grades between the experimental and the control group.

Rogers (1969) investigated a research study conducted to assess the effectiveness of a tutorial program in an urban school. The results of this investigation indicated that students who received tutoring showed greater improvements on essays, book reports, and out-of-class assignments, as compared to a control group. Also, the tutored students increased in their level of motivation and interest in the subject matter when compared to control students. Finally, the tutored students improved in study habits as compared to non-tutored students.

Rust (1969) reported the effects of one-on-one tutoring on the tutors' achievement in mathematics. Sixth graders were utilized to tutor third graders in mathematics during an eight-week marking period during the regular school year. The results showed a statistically significant difference at the .01 level of probability in favor of the tutors as compared to a group of non-tutors.

Newman (1970) examined the performance of graduate students as tutors in a series of case studies. There were thirty-eight graduate students assigned to an inner-city school in Jersey City, and they tutored third and fourth graders in reading. Each student worked one-on-one for an hour a day four days a week. The tutors developed skills in listening, speaking, reading, writing, and discussing particular themes. Although there were no statistical measures utilized, the author felt that there were positive gains for the tutees and presents interesting case studies of tutors individualizing instructional approaches.

Stainback (1971) conducted a study for eleven weeks to determine the effects of one-on-one tutoring on arithmetic achievement. One hundred and twenty students in fifth, sixth, and seventh grade served as the tutees and the tutors. The fifth graders tutored fifth graders, sixth graders tutored sixth graders, and seventh graders tutored seventh graders. The results of the study indicated that there were no significant differences between the arithmetic achievement of the tutored students and similar students in the same school that did not receive tutoring.

Erickson (1971) investigated the effects of a tutorial program upon both tutor and tutee. Reading scores, grades in school, interest and attendance, and attitude towards learing, were used as the dependent variables. The program was conducted for five months, and the tutors were seventh grade boys while the tutees were third grade boys. Tutoring occurred for thirty minute sessions twice a week. The results of this study indicated statistically significant reading gains for both tutors and tutees. There were no statistically significant changes in the other dependent variables.

Shaver and Nuhn (1971) conducted a study to assess the effectiveness of a tutorial program focused on reading and writing. The students involved in the research were underachieving fourth, seventh and tenth graders who were reading and writing below grade level. Forty-six students at each grade level were tutored, while control groups of twenty students each were established at each grade level. Adult tutors were recruited and tutoring occurred one hour per day over the regular school year. A statistical analysis after the school year indicated a greater gain in reading and writing skills for the experimental group as compared to the control group, and the gains were greater at the seventh and tenth grade levels.

Falik and Wexler (1971) investigated the effects of a tutorial program

for ninety-two students in primary school. The tutoring program was conducted utilizing one-on-one tutoring by college students over the regular school year. The evaluation of the program was descriptive in design and suggested the following areas in need of investigation and improvement:

1. The need to train tutors to work with minority group children.
2. The need for diagnosis of the child's educational needs.
3. The selection of appropriate material for the tutors.
4. The assessment of the length of contact time to maximize the effects of tutoring on a daily basis.
5. The number of contacts per week and per semester and the best location for tutoring (library, school, home).
6. The best age for a child to receive tutoring.
7. The amount of parental involvement and contact.
8. The motivation level of the tutor, and what the experience means.
9. The motivation level of the tutee, and what the expectations are.

These problem areas contributed to some extent to the limited success of the tutorial program, as limited contact and the lack of systematic data prevented assessment of academic improvement.

Pope (1971) attempted to develop a model for a successful tutorial program in reading. The program was psychoeducational in design and was conducted in an extremely depressed urban area. Paraprofessionals were recruited from the community as fifty parents were assigned to four schools to tutor one hundred and seven children, under the supervision of the Psycho-Educational Division of Psychiatry Services of the local hospital. The children selected for the tutorial program were reading several grades below their actual grade placement in elementary school. A highly structured instructional program was implemented which was directed at word attack skills. Some children were tutored twice a week, while others received

tutoring four times a week. The results of the Wide Range Achievement Test administered after four months, indicated reading gain ranging from four months to two years, for thirty-nine of the eighty-two children that completed the program.

Criscuolo (1971) summarized the need for tutorial programs and the training of effective tutors for these programs. He outlined the need for the recruitment of parents as tutors and the development of tutorial material. School and community volunteers are also mentioned as potential tutors also in need of workshops and seminars directed toward tutorial procedures. Youth tutoring youth, college student volunteers, and the development of special programs such as the Junior Assistants Corporation, are also mentioned as areas where tutors may develop the valuable experiences necessary for effective tutoring.

Holbrook (1971) directed a one-on-one tutorial program conducted in a samll-town school system. In the first year of the program there were 250 college student tutors, and they were assigned to tutor children in ghetto elementary schools. Although overall statistical methods were not used, some positive gains were reported for many of the tutees. Holbrook reported some students increasing school grades from F to C and other improving D's to B's. Other students were reported to be enjoying schoolwork for the first time, while several students who planned on dropping out of school at age sixteen remained because of the effects of tutoring. In the final analysis of the program, it was determined that of the hundreds of students tutored each year, about 1/3 raise their grades from getting tutorial help, approximately another third improve their attitudes or some other intangible benefit, and the rest remain in school at about the same achievement level.

Erikson and Cromack (1972) investigated a tutorial program in which twelve seventh grade boys that were underachievers, tutored twelve under-

achieving third graders. A statistical t-test comparing the effects of tutoring against non-tutored classmates yielded significant results at the .01 probability level. There were no gain effects for the tutors as compared with their peers, using the t-test method. However, using Campbell's Regression Discountinuity Analysis, there were positive gain effects for the tutors at the .05 probability level.

Gardner (1973) analyzed the effects of third and fourth graders tutoring first and second graders in reading. Also included in the investigation was an assessment of the tutorial program upon attitudes towards school, and school behavior, of both the tutors and the tutees. After the 10-week program had concluded, only minimal gains resulted for the tutees as compared to a control group. However, the third and fourth graders indicated substantial gains in reading achievement as compared to the control group. Neither tutors or tutees indicated any gains in school behavior greater than the respective control groups, while the tutors indicated significant gains over controls in attitude towards school.

Kreutzer (1973) reported on the effects of a tutoring program in which underachieving ninth graders tutored emotionally disturbed elementary school children in reading. Also investigated were possible gains for both tutors and tutees in personal admustment and social admustment in school. After six months when compared to controls, the experimenter was unable to report significant differences for either tutors or tutees on any of the variables under investigation.

Raim (1973) outlined strategies that could be used for initiating tutorial programs, training tutors and evaluating tutoring effects. She suggests that educators design and employ well-planned training programs for tutors, specifiying the specific goals for the tutors along with providing the necessary materials. Finally, proper supervision should be

provided vis-a-vis group meetings, and tutors should be provided with feedback in terms of the progress of the tutee.

Vassallo (1973) reported on a tutorial program conducted by members of the National Honor Society in a Dallas high school. The program started with a core group of 20 students tutoring 24 other students, and within three months expanded to 260 tutors. The school year ended with 1,000 student volunteer tutors helping 5,000 students across all subject areas in 13 junior high schools and 10 high schools. The year-end evaluation of the tutorial program reported that forty-three percent of the students that received tutoring improved their grades by one full grade. The results also indicated that another eight percent improved by greater margins. Teachers also reported an increase in self-confidence among the majority of students receiving tutorial assistance.

Elliot (1973) reported that students tutoring students produces positive results for both tutors and tutees, and presents conclusions from the examination of many tutorial experiments ranging from simple to sophisticated designs and evaluations. Some of the conclusions highlighted regarding student tutoring are:

1. one-on-one tutoring is the best tutoring arrangement.
2. the older student serves as a role model for the tutee.
3. student tutors develop a sense of responsibility and gain valuable exposure to teaching.
4. student tutors can also help to solve personal problems that are often magnified out of proportion.
5. the tutors can also include interested parents and community volunteers all working toward a common goal.
6. student tutoring can develop into a sense of cooperation among the participants and generate a sense of community and concern for the individual with society.

Menges, Marx and Trumpeter (1973) studied the effectiveness of seven graduate students tutoring seventy-eight high-risk students in advanced

psychology courses. The graduate students conducted special sections of these courses and had office hours available for tutoring. The results of this research indicated that students who initiated the most contact to receive tutoring were more successful in achieving higher grades. In this regard, only 20 of the 78 students were in the medium and high contact groups, so that the program proved to be expensive with the resources not utilized as much as possible.

Klosterman and Frankel (1975) assessed the validity of tutorial methods and stressed that the greatest danger of tutorial programs is the development of dependency on the part of the tutee, which occurs when the tutor endeavors to do too much of the work assigned, and tends to give positive reinforcement too frequently. The recommendation is made that self-instructional methods be utilized for tutorial programs, especially for students with severe learning or behaviorial problems. Essentially the self-instructional methods include:

1. providing specific "lesson plans" for learning certain concepts or solving problems.
2. include some technique for transferring the responsibility of learning the material to the tutee.
3. provide reinforcement when the tutee has demonstrated competency.
4. include a method to help the tutee overcome self-defeating attitudes.
5. instruct the tutee how to deal with temporary defeat or mistakes and encourage determination to succeed.

Moran (1976) developed guidelines for tutorial programs which focused upon the essential characteristics necessary for effective tutors. These characteristics are related to the personality of the tutor and include the following: dependability, patience, empathy, integrity, and normality. The use of different tutoring methods once the tutor starts in the program, is also recommended. That is, the tutor can decide which tutoring method

will be employed, and continually assess the validity of the particular method, making changes to different methods and techniques if necessary.

Pellegrene and Dickerson (1977) reported on the effectiveness of student tutors employed in a one-on-one tutorial preofram in a high school setting. The program involved 20 high school student members of a Tutors Club, who tutored their peers in all subject areas. While there was not any data available on the tutorial program, the tutorial coordinator felt that the student tutors fill an important role for both the teachers and the students in the high school. School personnel stressed that without the student volunteers, many students would be left out of the educational system.

Howard (1977) investigated a peer tutoring program organized in a technical school. The program was directed towards the improvement of reading, and presented carefully detailed plans on how to develop a tutorial program emphasizing reading. The development of the program is traced as it progressed from a small group of teachers working with a small group of students to a larger group of volunteer students, teachers, and parents tutoring a larger group of students in one-on-one situations. The report does not detail results of the reading program, but rather presents explicit guidelines regarding the development of a tutorial program that addresses reading deficiencies.

Hill (1978) conducted a study with antisocial, multiproblem boys in elementary and junior high school, with lengthy records of underachievement although they were of normal intelligence. As remedial tutoring had been unsuccessful, a psychoeducational one-on-one tutorial program was instituted. This approach focused upon both learning and behavioral needs, with counseling of personal problems such as outbursts and conflicts with others often superseding academic discussions. These two goals were focused upon in

concert with these resulting changes in student behavior:

1. Attentive behavior when tutor read short stories.
2. Using short periods reading popular magazines and discussing the pictures.
3. Following instructions in order to play popular games or to assemble plastic models.
4. Accepting the fact that losing a game would not lead to leaving the situation.
5. Staying with the situation with some willingness to follow-up on learning experiences.
6. Learning to accept mistakes without feeling total rejection.
7. Evaluating ideas from readins and relating them to personal experiences.

Academic or achievement goals such as working math problems, and school-related tasks such as book reports, were compromised with the aformentioned student behavioral goals. Individual schedules included increased attention to academic goals as the students progressed through the tutorial program. The results of achievement tests indicated some gain in reading and math scores for most of the tutees.

Suen (1979) investigated the effect of three different modes of providing tutorial services on the academic performances of special services program students. The types of tutorial systems were voluntary, compulsory, and combining voluntary and compulsory tutoring. The sample consisted of freshmen considered to be underachievers, who had participated in a Developmental Education Program. Results from a one way analysis of variance showed no significant differences in grade point average among recipients of the three different tutorial systems. Suen suggests that because of the low utilization rate of the voluntary tutorial services, it might be more practical to offer tutorial services on a compulsory basis to special services program participants.

For six weeks during the summer the incoming freshment to the College Opportunity Program at Mercy College in New York take developmental courses in reading, writing and a counseling group for orientation. Blustein (1979) discusses how the College Opportunity Program used successful disadvantaged college students as peer tutor-counselors in this pre-freshman orientation program. The tutor-counselors were all Counselor Opportunity Program students who had experienced a similar pre-freshman semester. The training of the peers included the development of communication skills, interpersonal effectiveness and competence in tutoring of reading and writing.

Besides sitting in on the students classes, the tutor-counselors also met with them in a group counseling setting along with a professional counselor once a week. The tutor-counselors were given a caseload of students with whom they would meet at least once a week for one-half hour.

The staff of the College Opportunity Program felt that the new students showed a greater sense of belonging and the retention rate increased 13% over the previous year's entering class.

Garstka (1979) studied the role of tutoring services in special programs at community colleges. This was accomplished through a review of the literature on history of tutoring programs, the development of special programs to meet the remedial, developmental, and compensatory education needs of underprepared students, special programs featuring tutoring components, and the characteristics of peer tutoring. On the basis of this study, along with interviews with tutorial service coordinators at Los Angeles community colleges, the following conclusions were drawn:

1. Tutoring is an essential support service component in the special programs designed for the non-traditional student.
2. Peer tutors are effective because they understand the student's difficulties and are willing to help.
3. Peer totors should be carefully recruited, selected and trained.

4. Tutoring centers vary and reflect the personalities of the individual staff and campus.

5. Successful tutorial programs occur when there is an enthusiastic and able staff and when the college administration is committed to the program.

Adomanis (1979) describes the PRIDE Program (Personalized Reading Interdisciplinary Development for Everyone) which is designed for students reading three or more grades below grade level who are not behaviorial problems in school, but tend to be slow learners. The major purposes of this program is to help students with reading skills, to make them more successful in other classes, and to better prepare them for life after high school.

The PRIDE Program is designed for eleventh graders and is taught by an interdisciplinary team who teaches English, Reading, and American History. The students in the program spend three days a week at the high school in academic classes and two days a week at an elementary school as student aides. Working under the direct supervision of the classroom teacher, the PRIDE tutors activities are varied, however all aide activities are reinforcement in nature and not initial instruction.

The PRIDE staff has found in two separate studies that reading comprehension scores on the Nelson Reading Test have increased over one full year sor students who have taken part in the program. Some students have gained over three full years.

Harris (1979) sees the tutor as a combination of three roles: a coach, a commentator, and a counselor. As a coach, a tutor is a trainer who tells learners what they need to know in order to become more skilled. The tutor-coach also diagnosis what is not working effectively, what is going wrong, how to improve, while not doing the work for the learner. As a commentator, the tutor evaluates the whole situation and gives a larger perspective to the student. As a counselor, the tutor must consider the

student as a whole person, offer advice, start at the learner's stage of development, and be able to read beyond the surface manifestation of what is on the page.

The Tutoring and Academic Counseling (TAC) Design

The nature of high school academic subjects are that students are required to perform certain cognitive tasks within the classroom. That is, a test in mathematics demands that the student be able to analyze, synthesize and master certain concepts in such a manner that the output is a certain level of performance on the test. The student who has not mastered certain processing skills in mathematics cannot expect to do well on tests that measure these academic skills. Indeed, whether the subject area is mathematics, English, science, history or language, the student has to possess the processing skills necessary for the material.

English curriculums demand that students possess language arts skills such as the ability to read and comprehend assigned material, and the ability to understand the material in such a manner that writing skills produce clear and concise essays or reports. Science courses mandate that students grasp and understand the assigned material in such a manner that laboratory experiments are both qualitative and quantitative learning experiences. Good reading and writing skills are also extremely important in science courses when reports and projects are assigned, as well as for exams and quizzes. History curriculums require that students possess good reading and writing skills, and language courses demand that students are able to read, memorize, recall, write and speak with competency. For all of these academic disciplines, the student who is weak in any of the skills mentioned will have great difficulty achieving good grades in high school, and needs the benefit of tutoring and academic counseling.

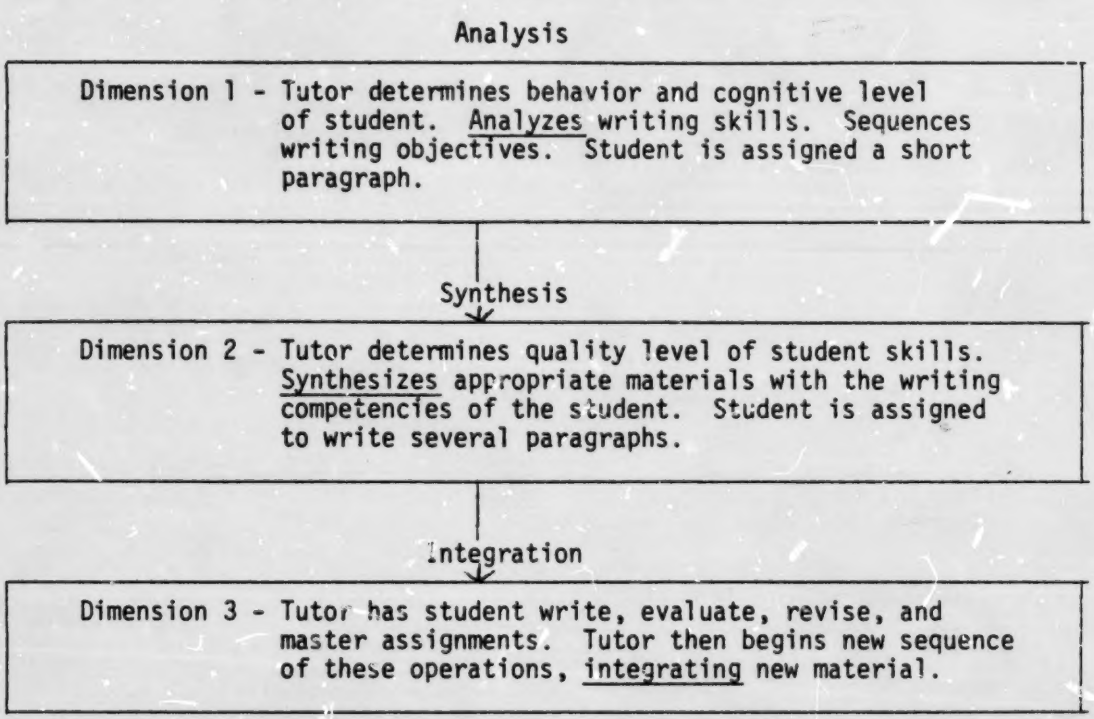
The tutoring and academic counseling program consisted of one three

hour tutoring and counseling session with each student per week for sixteen weeks, and a tutors meeting with the tutorial coordinator once a week for one hour. Tutors were assigned to students on a one-on-one basis and gave out weekly assignments to their students. The tutorial sessions were designed and implemented as both intensive tutoring for the students and academic counseling sessions. That is, tutors would have students solve mathematics problems, complete writing assignments, drill and practice language vocabulary, or work at whatever the particular discipline demanded. The intensive two-hour tutoring sessions were such that communications were two-way, as the tutors encouraged questions from the tutees. The academic counseling session consisted of utilizing the last hour of the three hour session to investigate and counsel students on such matters as proper study habits, time management, attention to homework assignment, peer influences in the classroom, student-teacher relationships, student-parent relationships, and performance levels in other courses in school. Additional topics discussed during subsequent sessions were classroom behavior, test-anxiety, and test-taking skills.

The overall design of the tutoring and academic counseling (TAC) program involved a tri-dimensional model for individualizing the two-hour intensive counseling session. For example, this model was used to develop skills in writing, as the following dimensions illustrate.

Figure 1

A Tri-Dimensional Model for a Tutoring and Academic Counseling Program


Analysis
Dimension 1 - Tutor determines behavior and cognitive level of student. Analyzes writing skills. Sequences writing objectives. Student is assigned a short paragraph.
Synthesis
Dimension 2 - Tutor determines quality level of student skills. Synthesizes appropriate materials with the writing competencies of the student. Student is assigned to write several paragraphs.
Integration
Dimension 3 - Tutor has student write, evaluate, revise, and master assignments. Tutor then begins new sequence of these operations, integrating new material.

These dimensions simplify a writing assignment from a wide range of language arts assignments, and the tutoring of numerous subject areas much too detailed for this discussion may be accomplished in a similar manner.

The Research Question

The fundamental question that this research effort attempted to answer was, "Can a tutoring and academic counseling (TAC) program improve the cognitive abilities and performances of disadvantaged minority high school students on tests in academic subjects?" The hypothesis was that the TAC design might provide these students with both intensive skill development as well as personal supprt which would facilitate learning the subject matter. Therefore, any gains in performance attributable to the TAC should show up as incremental gains between the pre-TAC and post-TAC grade point averages (GPA) in the academic subject in which tutoring and counseling was

Results

The following table presents the matching variables used to produce similar groups.

TABLE 1

Matching Variables for TAC and Control Groups

TAC Group

Subject Number	Sex	Age	Prior GPA	Post GPA	Subject
01	M	18	1.0	2.0	Chemistry
02	F	18	0.0	0.0	Spanish I
03	F	17	0.0	2.0	Algegra I
04	F	16	1.0	2.0	Geometry
05	M	18	1.0	1.0	Algebra I
06	M	17	0.0	1.0	English
07	F	18	0.0	0.0	Trigonometry
08	F	18	0.0	0.0	Algebra I
09	M	17	0.0	1.0	Spanish II
10	M	17	1.0	1.0	English
11	F	17	2.0	3.0	English
12	F	17	1.0	1.5	English
13	F	16	1.0	1.0	English
14	F	18	2.0	2.0	English
15	F	16	0.0	1.0	History
16	F	15	0.0	0.0	English
17	F	18	1.0	0.0	Chemistry
18	F	18	2.0	2.0	Latin
19	M	17	2.0	2.0	Algebra II
20	M	16	1.0	2.0	Geometry
21	M	16	1.0	1.0	General Math
22	F	16	0.0	0.0	English
23	M	18	0.0	0.0	Accounting
24	M	15	0.0	0.0	Geometry
25	F	18	2.0	2.0	Spanish
26	F	17	0.0	0.0	English
27	F	17	0.0	1.0	English
28	F	15	3.0	3.0	English
29	F	15	2.0	2.0	English
30	M	18	2.0	2.5	English
31	F	19	0.0	0.0	History
32	F	18	1.0	1.0	English

GPA Scale: 4.0 = A; 3.0 = B; 2.0 = C; 1.0 = D; 0.0 = F.

The next table presents the results of the TAC treatment on the grade point averages of the students enrolled in these particular courses during the regular school year compiled over two eight-week marking periods.

TABLE 2

Prior and Post Grade Point Averages, Changes, and Group Means for TAC and Control Groups, Over Two Marking Periods

TAC (n = 16)

Subject Number	Prior GPA	Post GPA	Change
01	1.0	2.0	+1.0
02	0.0	0.0	0.0
03	0.0	2.0	+2.0
04	1.0	2.0	+1.0
05	1.0	1.0	0.0
06	0.0	1.0	+1.0
07	0.0	0.0	0.0
08	0.0	0.0	0.0
09	0.0	1.0	+1.0
10	1.0	1.0	0.0
11	2.0	3.0	+1.0
12	1.0	1.5	+0.5
13	1.0	1.0	0.0
14	2.0	2.0	0.0
15	0.0	1.0	+1.0
16	0.0	0.0	0.0
	M = 0.6 S.D.= 0.7	M = 1.1 S.D.= 0.8	M = +0.5 S.D.= 0.6

Control (n=6)

17	1.0	C.0	-1.0
18	2.0	2.0	0.0
19	2.0	2.0	0.0
20	1.0	2.0	+1.0
21	1.0	1.0	0.0
22	0.0	0.0	0.0
23	0.0	0.0	0.0
24	0.0	0.0	0.0
25	2.0	2.0	0.0
26	0.0	0.0	0.0
27	0.0	1.0	+1.0
28	3.0	3.0	0.0
29	2.0	2.0	0.0
30	2.0	2.5	+0.5

TABLE 2 (cont'd)

Subject Number	Prior GPA	Post GPA	Change
31	0.0	0.0	0.0
32	1.0	1.0	0.0
	M = 1.0	M = 1.1	M = +0.1
	S.D.= 1.0	S.D.= 1.0	S.D.= 0.5

GPA Scale: 4.0 = A; 3.0 = B; 2.0 = C; 1.0 = D; 0.0 = F.

M = Mean

S.D. = Standard Deviation

A test for correlation between prior and post GPA's was performed, with r = .80. An analysis of convriance was performed using the prior GPA as the covariate, and the post GPA as the dependent measure. The results are presented in the following table.

TABLE 3

Analysis of Covariance: Effect of TAC on Post Grade Point Average Over Two Marking Periods

Source of Variation	SS	df	MS	F	Significance
TAC	1.26	1	1.26	4.18	.05
Residual	8.75	29	.30		

Summary

These data indicate that there was an overall gain in GPA for the TAC group, and that this difference was significant in an analysis of covariance at the .05 level. In addition, the average gain for the TAC group was +0.5 in GPA, while the Contol group showed an average gain of +0.1 in GPA. The TAC group had eight students that gained in GPA, while eight indicated no change. The Control group had three that gained, while twelve reflected no change, and one student lost in GPA.

Discussion

The impact of the TAC design treatment upon the abilities of the experimental group was determined by an analysis of the research question, "Can a tutoring and academic counseling (TAC) program improve the cognitive abilities and performances of disadvantaged minority high school students on tests in academic subjects?" The results indicate that the TAC had a positive effect upon performance in high school courses, and was statistically significant.

These results suggest that an improvement of the treatment effect will yield an even more significant performance change. The effect of the treatment upon the students could be strengthened by extending the TAC over the full academic year to allow for more frequent contact with the students. In this manner, more depth and detail into the particular subject area, along with additional time allocations, could allow for a more effective tutoring and academic counseling program.

Overall Summary

Some specific characteristics of counseling that are problem areas for minority groups are:

(a) Emphasis on long range goals.

(b) Assumption of a distinction between physical and mental health.

(c) Emphasis on cause and effect relationships.

(d) Cultural and class values that govern conversation.

(e) The use of standard English.

(f) The belief of superiority of the achievements of white America in art, language, and religion.

(g) The belief in the inferiority of different cultural achievements.

(h) Imposing standards and beliefs of the dominant group upon minority groups.

(i) The implication that because minority people are different, they are deviant and pathologically sick.

(j) Differences in the use of personal space among cultures.

(k) Differences in the use of eye contact among cultures.

(l) Differences in the use of body contacts such as handshakes, kisses, and bowing that differ across cultures.

(m) The interpretation of periods of silence by different cultural groups.

Many of these problem areas were addressed through the use of the tutoring and academic counseling design. The tutors were instructed to focus upon short-range goals by emphasizing daily studying habits and concentrating on weekly exams and essays, rather that focusing upon 8-week marking periods or school year grades. Physical and mental health were connected in relating the need for proper diet, rest and recreational activities. The tutors related to students the need for proper sleep prior to taking major exams and tests, and the notion that mental fatigue can cause poor performance.

The tutoring and counseling design attempted to sensitize the tutors to different class and cultural values, the use of non-standard English, and the achievements of minority groups, by having group discussions of these issues. These weekly discussion groups also attempted to raise levels of consciousness in the areas of use of personal space, eye contact, and body contact. For many students, eye contact is avoided out of respect for older people, and this should not be allowed to interfere with effective tutoring.

Many of these problem areas were not seen as interfering with the tutoring and counseling program, but they should be addressed in any program designed to serve the needs of minority group students.

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